

WHAT IS CLAIMED IS:

1. A transmission circuit of a mobile communication terminal device of CDMA system comprising:

code generating means for generating a multi-bit code  
5 necessary for transmission;

storing means for storing value of each bit of said code generating means; and

control means for writing value of each bit at an arbitrary timing of said code generating means, and reading  
10 the value of each bit stored in said storage means at an arbitrary timing to set to each corresponding bit of said code generating means.

2. A reception circuit of a mobile communication terminal  
15 device of CDMA system comprising:

code generating means for generating a multi-bit code necessary for reception;

storing means for storing value of each bit of said code generating means; and

20 control means for writing value of each bit at an arbitrary timing of said code generating means, and reading the value of each bit stored in said storage means at an arbitrary timing to set setting to each corresponding bit of said code generating means.

3. A transmission circuit as set forth in claim 1, wherein said control means comprises:

means for performing a process of transmission data with a code by continuously operating said code generating means at an initial code period after initiation of transmitting operation or modification of a transmission code, and writing a value of each bit of said code generating means in said storage means at a timing of leading end of each discontinuous transmission unit period which is shorter than a code period, in said code period;

means for reading a bit string corresponding to discontinuous transmission unit period stored in said storage means at a timing of leading end of discontinuous transmission unit period in second and subsequent code period to perform transmission and perform process of transmission data with the generation code with performing code generating operation after setting said bit storing in respectively corresponding bit of said code generating means; and

means for interrupting operation of said code generating means in the discontinuous transmission unit period not performing transmission.

4. A reception circuit as set forth in claim <sup>2</sup>/<sub>1</sub>, wherein said control means comprises:

means for performing a process of reception data with

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a code by continuously operating said code generating means at an initial code period after initiation of receiving operation or modification of a reception code, and writing a value of each bit of said code generating means in said storage  
5 means at a timing of leading end of each discontinuous reception unit period which is shorter than a code period, in said code period;

means for reading a bit string corresponding to discontinuous reception unit period stored in said storage  
10 means at a timing of leading end of discontinuous reception unit period in second and subsequent code period to perform reception and perform process of reception data with the generation code with performing code generating operation after setting said bit string in respectively corresponding  
15 bit of said code generating means; and

means for interrupting operation of said code generating means in the discontinuous reception unit period not performing reception.

20 5. A transmission circuit as set forth in claim 3, wherein said control means controls said code generating means to operate only in a time zone performing transmission and to interrupt the operation in a time zone not performing transmission, in discontinuous transmission.



a transmission circuit defined in claim 1; and  
a reception circuit defined in claim 2.

12. A mobile communication terminal device as set forth in  
5 claim 11, wherein said code generating means is used in common  
in said transmission circuit and said reception circuit.

13. A mobile communication terminal device as set forth in  
claim 12, comprises:

10 a common shift register portion constituted of shift  
register having smaller bit number among registers forming  
respective code generating means of said transmission circuit  
and reception circuit;

a remaining shift register portion constituted of  
15 remaining shift register having greater bit number among  
registers forming respective code generating means of said  
transmission circuit and reception circuit;

exclusive OR means and shift register tap for  
transmission and reception for generating respective of said  
20 codes necessary for transmission and reception;

switching means for switching respective outputs of said  
exclusive OR means, an output of said common shift register  
portion and an output of remaining shift register portion  
depending upon transmission and reception.

14. A mobile communication terminal device in a CDMA system designed for interrupting transmitting operation in a discontinuous reception unit period in a discontinuous transmission, and for interrupting receiving operation in discontinuous transmission unit period, comprising:

a common shift register portion constituted of shift register having smaller bit number among registers forming respective code generating means of said transmission circuit and reception circuit;

10           a remaining shift register portion constituted of  
remaining shift register having greater bit number among  
registers forming respective code generating means of said  
transmission circuit and reception circuit;

exclusive OR means and shift register tap for  
15 transmission and reception for generating respective of said  
codes necessary for transmission and reception;

switching means for switching respective outputs of said  
exclusive OR means, an output of said common shift register  
portion and an output of remaining shift register portion  
20 depending upon transmission and reception.

15. A transmission control method for a mobile communication terminal device in CDMA system having code generating means generating a multi-bit code necessary for transmission comprising:

a writing step of switching each bit of said code generating means at an arbitrary timing in a storage means; and

5 a reading step of reading out value of each bit stored in said storage means at an arbitrary timing and setting in each corresponding bit of said code generating means.

16. A reception control method for a mobile communication terminal device in CDMA system having code generating means  
10 generating a multi-bit code necessary for reception comprising:

a writing step of switching each bit of said code generating means at an arbitrary timing in a storage means; and

15 a reading step of reading out value of each bit stored in said storage means at an arbitrary timing and setting in each corresponding bit of said code generating means.

17. A transmission control method as set forth in claim 15,  
20 wherein said writing step comprises:

step of performing a process of transmission data with a code by continuously operating said code generating means at an initial code period after initiation of transmitting operation or modification of a transmission code, and writing  
25 a value of each bit of said code generating means in said storage

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means at a timing of leading end of each discontinuous transmission unit period which is shorter than a code period, in said code period;

said reading step comprises:

5           step of reading a bit string corresponding to discontinuous transmission unit period stored in said storage means at a timing of leading end of discontinuous transmission unit period in second and subsequent code period to perform transmission and setting said bit string in respectively  
10           corresponding bit of said code generating means;

said transmission control step further comprises:

          step of processing transmission data with the generation code with performing code generating operation after setting said bit string in respectively corresponding bit of said code  
15           generating means; and

          step of interrupting operation of said code generating means in the discontinuous transmission unit period not performing transmission.

20   18.   A reception control method as set forth in claim 16, wherein said writing step comprises:

          step of performing a process of reception data with a code by continuously operating said code generating means at an initial code period after initiation of transmitting  
25           operation or modification of a reception code, and writing a

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value of each bit of said code generating means in said storage means at a timing of leading end of each discontinuous reception unit period which is shorter than a code period, in said code period;

5           said reading step comprises:

          step of reading a bit string corresponding to discontinuous reception unit period stored in said storage means at a timing of leading end of discontinuous reception unit period in second and subsequent code period to perform  
10 reception and setting said bit string in respectively corresponding bit of said code generating means;

          said reception control method further comprises:

          step of processing reception data with the generation code with performing code generating operation after setting  
15 said bit string in respectively corresponding bit of said code generating means; and

          step of interrupting operation of said code generating means in the discontinuous reception unit period not performing reception.

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19.   A transmission control method as set forth in claim 17, wherein said code generating means only is operated only in a time zone performing transmission and interrupts said code generating means in a time zone not performing transmission,  
25 in discontinuous transmission.

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20. A reception control method as set forth in claim 18,  
wherein said code generating means only is operated only in  
a time zone performing reception and interrupts said code  
5 generating means in a time zone not performing reception, in  
discontinuous reception.

21. A storage medium storing a control program of a  
transmission control method of a mobile communication terminal  
10 device in CDMA system having code generating means for  
generating multi-bit code necessary for transmission,

said program comprising:

a writing step of switching each bit of said code  
generating means in storage means at an arbitrary timing; and  
15 a reading step of reading value of each bit stored in  
said storage means at an arbitrary timing to set in each  
corresponding bit of said code generating means.

22. A storage medium storing a control program of a reception  
20 control method of a mobile communication terminal device in  
CDMA system having code generating means for generating  
multi-bit code necessary for reception,

said program comprising:

a writing step of switching each bit of said code  
25 generating means in storage means at an arbitrary timing; and

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a reading step of reading value of each bit stored in said storage means at an arbitrary timing to set in each corresponding bit of said code generating means.

- 5 23. A storage medium as set forth in claim 21, wherein said writing step comprises:

step of performing a process of transmission data with a code by continuously operating said code generating means at an initial code period after initiation of transmitting operation or modification of a transmission code, and writing  
10 a value of each bit of said code generating means in said storage means at a timing of leading end of each discontinuous transmission unit period which is shorter than a code period, in said code period;

- 15 said reading step comprises:

step of reading a bit string corresponding to discontinuous transmission unit period stored in said storage means at a timing of leading end of discontinuous transmission unit period in second and subsequent code period to perform  
20 transmission and setting said bit string in respectively corresponding bit of said code generating means;

the program further comprises:

step of processing transmission data with the generation code with performing code generating operation after setting  
25 said bit string in respectively corresponding bit of said code

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generating means; and

step of interrupting operation of said code generating means in the discontinuous transmission unit period not performing transmission.

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24. A storage medium as set forth in claim 22, wherein said writing step comprises:

step of performing a process of reception data with a code by continuously operating said code generating means at  
10 an initial code period after initiation of transmitting operation or modification of a reception code, and writing a value of each bit of said code generating means in said storage means at a timing of leading end of each discontinuous reception unit period which is shorter than a code period, in said code  
15 period;

step of reading a bit string corresponding to discontinuous reception unit period stored in said storage means at a timing of leading end of discontinuous reception unit period in second and subsequent code period to perform  
20 reception and setting said bit string in respectively corresponding bit of said code generating means;

step of processing reception data with the generation code with performing code generating operation after setting said bit string in respectively corresponding bit of said code  
25 generating means; and

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step of interrupting operation of said code generating means in the discontinuous reception unit period not performing reception.

- 5 25. A storage medium as set forth in claim 23, wherein said code generating means only is operated only in a time zone performing transmission and interrupts said code generating means in a time zone not performing transmission, in discontinuous transmission.

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26. A storage medium as set forth in claim 24, wherein said code generating means only is operated only in a time zone performing reception and interrupts said code generating means in a time zone not performing reception, in discontinuous

15 reception.

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